

Sacramento River Watershed Program

Dennis Bowker, Coordinator
327 College Street, Suite 205
Woodland, CA 95696

530/661-3635

dennisbowker@volcano.net

09 May, 2002

Mr. Dan Ray
CALFED Bay-Delta Program
1416 9th Street, Suite 630
Sacramento, CA 95814

Re: ERP proposal 212

Dear Mr. Ray;

This letter represents the collective opinions of the various stakeholder interests that comprise the Ag Practices Workgroup (APW) of the Sacramento River Watershed Program's (SRWP) Organophosphate Pesticide Focus Group (OPFG) regarding the recent decision to not fund a proposal to the Ecosystem Restoration Program of CALFED. The proposal in question is one submitted by a U.C. Davis multi-disciplinary research team, proposal number 212, titled "Water Quality Effects of Pesticides Used in Orchard Agriculture - Part 1: Evaluating Management Alternatives and Off-site Movement".

For the past four years, the U.C. team has been successfully working to elevate grower awareness of the urgency for reducing pesticide contamination of surface waters, especially as it relates to organophosphate pesticides (OPs) used as orchard dormant sprays. Additionally, the U.C. team has developed methods for collecting winter runoff samples from orchards that allows various alternative pest management, site management, and application methods to be scientifically evaluated for efficacy. This work is vital and consistent with the goals stated in the ERP PSP. Members of the U.C. team have been very active in SRWP OPFG activities and have made significant contributions to our efforts to address the issue of off-site movement of pesticides.

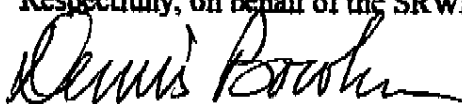
Consistent with the goals of CALFED and particularly the criteria listed in the ERP PSP, the U.C. team has assembled an effective multi-disciplinary approach. To lose the momentum created by this team would be extremely detrimental to the shared goals of SRWP and CALFED. Therefore, we request a reassessment of the U.C. proposal on the grounds that a) it addresses stated goals of the ERP that are critical to both CALFED and our group that are not being funded as a result of this CALFED PSP, and b) a number of comments made by certain reviewers of the proposal are incorrect. Please allow us to clarify those erroneous and damaging statements.

The Delta Regional review indicated that agricultural uses of the OPs diazinon and chlorpyrifos are being trimmed back, thus making the proposed work a mute point. This analysis is quite flawed. First of all, ag uses, unlike urban uses, have not been scaled back in any way that will mitigate aquatic toxicity problems. Secondly, the U.C. proposal also contains considerable new work that will evaluate the aquatic toxicity of pyrethroid pesticides that are documented as being used in place of the OPs for both urban and ag uses. The ERP PSP recognized the importance and need for such work on pyrethroid compounds as well as further work on the OPs, but field research to determine effects and establish mitigation practices if necessary are not being funded.

The Sacramento Regional review stated that the U.C. team had "received a 1999 and 2000 grant totaling \$2 million for similar work" and therefore this proposal "may be duplicative". The review went on to state a strong concern among the panel members that "this may be duplicative work of projects already funded by Prop 13 and CALFED Watershed funding". This is a false statement. Our group tracks funds that are allocated to watershed projects in the Sacramento Valley, and we can state unequivocally that beyond the CALFED ERP grant that the U.C. team received four years ago for \$957,000 augmented by \$150,000 to their project last year, no additional funding was ever received by this team. The Prop 13 and CALFED Watershed projects are grower demonstration projects that the SRWP OPFG has been sponsoring. The U.C. team was not eligible to apply for these funds because they are not intended to fund research. However, the U.C. team has been cooperating with these projects in providing their required water quality monitoring component; an essential contribution to projects that were ranked very high in their own right.

In the interest of meeting the stated goals of the CALFED ERP and maintaining research support vital to the interests of the SRWP, we respectfully ask that this proposal be given further review and an opportunity to be evaluated and funded based on its true merits without being compromised by the damaging and false statements referred to above. As best we can ascertain, there were only two other proposals recently recommended for funding that offer some potential for addressing pesticide/water quality issues. One project will attempt to identify methods for detection of pyrethroids at lower than current detection limits (#242), and we agree that this is a worthwhile effort. Another project will look at tillage and ground cover as ways to reduce off-site movement of nutrients and pesticides in limited areas of row-cropped agriculture (#213). However, the U.C. team proposal (#212) addresses the specific concerns related to dormant spraying of orchards and the consequences of winter runoff of OP and pyrethroid pesticides that result from rainfall rather than irrigation. Specific conditions and pesticides addressed through research proposed by the latter project is critical to improving the health of our watersheds and to the mission of the SRWP OPFG stakeholder group.

Respectfully, on behalf of the SRWP Agricultural Practices Workgroup (listed below)



Dennis Bowker, Coordinator
Sacramento River Watershed Program

Michael Oliver,
UC Cooperative Extension Service

Kimberly A. Crum
Executive Director
California Agricultural Production Consultants Association (CAPCA)

The California Dried Plum Board

Gary Obenauf,
Agricultural Research Consulting

Brian L. Bret, Ph.D.
State Regulatory Manager
Dow AgroSciences, LLC

Gary W. Van Sickle
Research Director
California Plum Marketing Board

Mark P. Quisenberry
Sutter County Agricultural Commissioner

Chris Heintz
Director Production Research and Environment
Almond Board of California

Jerry Troyan
Associate Civil Engineer
Sacramento Regional County Sanitation District

Otis Wollan
Agricultural Practices Workgroup Facilitator

Robert Voorhees
Butte County Agricultural Commissioner's Office

Jamil S. Ibrahim
Hydrologic Sciences Graduate Group
University of California



CALIFORNIA DRIED PLUM BOARD
3841 North Freeway Blvd. Phone (916) 563 6232
Suite 120 Fax (916) 563 6237
Sacramento, CA 95814 www.CaliforniaDriedPlums.org

Mr. Dan Ray
CALFED Bay-Delta Program
1416 9th Street, Suite 630
Sacramento, CA 95814

Dear Mr. Ray:

The California Dried Plum Board is an active stakeholder in the Ag Practices Workgroup (APW) of the Sacramento River Watershed Program's (SRWP) Organophosphate Pesticide Focus Group (OPFG) regarding the recent decision to not fund a proposal to the Ecosystem Restoration Program of CALFED. The proposal in question is one submitted by a U.C. Davis multi-disciplinary research team, proposal number 212, titled "Water Quality Effects of Pesticides Used in Orchard Agriculture – Part I: Evaluating Management Alternatives and Off-site Movement".

For the past four years, the U.C. team has been successfully working to elevate grower awareness of the urgency for reducing pesticide contamination of surface waters, especially as it relates to organophosphate pesticides (OPs) used as orchard dormant sprays. Additionally, the U.C. team has developed methods for collecting winter runoff samples from orchards that allows various alternative pest management, site management, and application methods to be scientifically evaluated for efficacy. This work is vital and consistent with the goals stated in the ERP PSP. Members of the U.C. team have been very active in SRWP OPFG activities and have made significant contributions to our efforts to address the issue of off-site movement of pesticides.

Consistent with the goals of CALFED and particularly the criteria listed in the ERP PSP, the U.C. team has assembled an effective multi-disciplinary approach. To lose the momentum created by this team would be extremely detrimental to the shared goals of SRWP and CALFED. Therefore, we request a reassessment of the U.C. proposal on the grounds that a) it addresses stated goals of the ERP that are critical to both CALFED and our group that are not being funded as a result of this CALFED PSP, and b) a number of comments made by certain reviewers of the proposal are incorrect. Please allow us to clarify those erroneous and damaging statements.

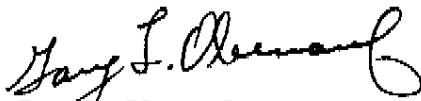
The Delta Regional review indicated that agricultural uses of the OPs diazinon and chlorpyrifos are being trimmed back, thus making the proposed work a moot point. This analysis is quite flawed. First of all, ag uses, unlike urban uses, have not been scaled back in any way that will

mitigate aquatic toxicity problems. Secondly, the U C proposal also contains considerable new work that will evaluate the aquatic toxicity of pyrethroid pesticides that are documented as being used in place of the OPs for both urban and ag uses. The ERP PSP recognized the importance and need for such work on pyrethroid compounds as well as further work on the OPs, but field research to determine effects and establish mitigation practices if necessary are not being funded

The Sacramento Regional review stated that the U.C. team had "received a 1999 and 2000 grant totaling \$2 million for similar work" and therefore this proposal "may be duplicative". The review went on to state a strong concern among the panel members that "this may be duplicative work of projects already funded by Prop 13 and CALFED Watershed funding" This is a false statement. Our group tracks funds that are allocated to watershed projects in the Sacramento Valley, and we can state unequivocally that beyond the CALFED ERP grant that the U.C. team received four years ago for \$957,000 augmented by \$150,000 to their project last year, no additional funding was ever received by this team. The Prop 13 and CALFED Watershed projects are grower demonstration projects that the SRWP OPFG has been sponsoring. The U.C. team was not eligible to apply for these funds because they are not intended to fund research. However, the U.C. team has been cooperating with these projects in providing their required water quality monitoring component; an essential contribution to projects that were ranked very high in their own right.

In the interest of meeting the stated goals of the CALFED ERP and maintaining research support vital to the interests of the SRWP, we respectfully ask that this proposal be given further review and an opportunity to be evaluated and funded based on its true merits without being compromised by the damaging and false statements referred to above. As best we can ascertain, there were only two other proposals recently recommended for funding that offer some potential for addressing pesticide/water quality issues. One project will attempt to identify methods for detection of pyrethroids at lower than current detection limits (#242), and we agree that this is a worthwhile effort. Another project will look at tillage and ground cover as ways to reduce off-site movement of nutrients and pesticides in limited areas of row-cropped agriculture (#213). However, the U.C. team proposal (#212) addresses the specific concerns related to dormant spraying of orchards and the consequences of winter runoff of OP and pyrethroid pesticides that result from rainfall rather than irrigation. Specific conditions and pesticides addressed through research proposed by the latter project is critical to improving the health of our watersheds and to the mission of the SRWP OPFG stakeholder group.

Respectfully,



Gary L. Obenauf
Director Research
CDPB



Agricultural Research Consulting

CALFED Bay-Delta Program

Gary L. Obenauf
Consultant

RECEIVED

Mr. Dan Ray
CALFED Bay-Delta Program
1416 9th Street, Suite 630
Sacramento, CA 95814

Dear Mr. Ray:

Agricultural Research Consulting is an active stakeholder in the Ag Practices Workgroup (APW) of the Sacramento River Watershed Program's (SRWP) Organophosphate Pesticide Focus Group (OPFG) regarding the recent decision to not fund a proposal to the Ecosystem Restoration Program of CALFED. The proposal in question is one submitted by a U.C. Davis multi-disciplinary research team, proposal number 212, titled "Water Quality Effects of Pesticides Used in Orchard Agriculture – Part 1. Evaluating Management Alternatives and Off-site Movement"

For the past four years, the U.C. team has been successfully working to elevate grower awareness of the urgency for reducing pesticide contamination of surface waters, especially as it relates to organophosphate pesticides (OPs) used as orchard dormant sprays. Additionally, the U.C. team has developed methods for collecting winter runoff samples from orchards that allows various alternative pest management, site management, and application methods to be scientifically evaluated for efficacy. This work is vital and consistent with the goals stated in the ERP PSP. Members of the U.C. team have been very active in SRWP OPFG activities and have made significant contributions to our efforts to address the issue of off-site movement of pesticides.

Consistent with the goals of CALFED and particularly the criteria listed in the ERP PSP, the U.C. team has assembled an effective multi-disciplinary approach. To lose the momentum created by this team would be extremely detrimental to the shared goals of SRWP and CALFED. Therefore, we request a reassessment of the U.C. proposal on the grounds that a) it addresses stated goals of the ERP that are critical to both CALFED and our group that are not being funded as a result of this CALFED PSP, and b) a number of comments made by certain reviewers of the proposal are incorrect. Please allow us to clarify those erroneous and damaging statements.

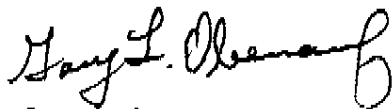
The Delta Regional review indicated that agricultural uses of the OPs diazinon and chlorpyrifos are being trimmed back, thus making the proposed work a mute point. This analysis is quite flawed. First of all, ag uses, unlike urban uses, have not been scaled back in any way that will

mitigate aquatic toxicity problems. Secondly, the U.C. proposal also contains considerable new work that will evaluate the aquatic toxicity of pyrethroid pesticides that are documented as being used in place of the OPs for both urban and ag uses. The ERP PSP recognized the importance and need for such work on pyrethroid compounds as well as further work on the OPs, but field research to determine effects and establish mitigation practices if necessary are not being funded.

The Sacramento Regional review stated that the U.C. team had "received a 1999 and 2000 grant totaling \$2 million for similar work" and therefore this proposal "may be duplicative." The review went on to state a strong concern among the panel members that "this may be duplicative work of projects already funded by Prop 13 and CALFED Watershed funding." This is a false statement. Our group tracks funds that are allocated to watershed projects in the Sacramento Valley, and we can state unequivocally that beyond the CALFED ERP grant that the U.C. team received four years ago for \$957,000 augmented by \$150,000 to their project last year, no additional funding was ever received by this team. The Prop 13 and CALFED Watershed projects are grower demonstration projects that the SRWP OPFG has been sponsoring. The U.C. team was not eligible to apply for these funds because they are not intended to fund research. However, the U.C. team has been cooperating with these projects in providing their required water quality monitoring component; an essential contribution to projects that were ranked very high in their own right.

In the interest of meeting the stated goals of the CALFED ERP and maintaining research support vital to the interests of the SRWP, we respectfully ask that this proposal be given further review and an opportunity to be evaluated and funded based on its true merits without being compromised by the damaging and false statements referred to above. As best we can ascertain, there were only two other proposals recently recommended for funding that offer some potential for addressing pesticide/water quality issues. One project will attempt to identify methods for detection of pyrethroids at lower than current detection limits (#242), and we agree that this is a worthwhile effort. Another project will look at tillage and ground cover as ways to reduce off-site movement of nutrients and pesticides in limited areas of row-cropped agriculture (#213). However, the U.C. team proposal (#212) addresses the specific concerns related to dormant spraying of orchards and the consequences of winter runoff of OP and pyrethroid pesticides that result from rainfall rather than irrigation. Specific conditions and pesticides addressed through research proposed by the latter project is critical to improving the health of our watersheds and to the mission of the SRWP OPFG stakeholder group.

Respectfully,



Gary L. Obenauf
Owner

UNIVERSITY OF CALIFORNIA, DAVIS

BERKELEY • DAVIS • IRVINE • LOS ANGELES • RIVERSIDE • SAN DIEGO • SAN FRANCISCO



SANTA BARBARA • SANTA CRUZ

COLLEGE OF AGRICULTURAL AND
ENVIRONMENTAL SCIENCES
AGRICULTURAL EXPERIMENT STATION
(530) 752-0475
FAX (530) 752-1537

DEPARTMENT OF ENTOMOLOGY
ONE SHIELDS AVENUE
DAVIS, CALIFORNIA 95616-8584

May 6, 2002

Mr. Dan Ray
CALFED Bay-Delta Program
1416 9th Street, Suite 630
Sacramento, CA 95814

Re: Comments on CALFED ERP Proposal No. 212; Request for Reconsideration

Dear Mr. Ray;

As the Principle Investigator for a proposal that was recently not recommended for funding by the CALFED ERP, I offer this letter on behalf of our entire multi-disciplinary team with the intention of clarifying a number of false and inaccurate review comments that we believe led to our proposal being rejected. I am referring to proposal number 212, titled "Water Quality Effects of Pesticides Used in Orchard Agriculture – Part 1: Evaluating Management Alternatives and Off-site Movement".

Comments on our proposal found in the Delta Regional review indicated that agricultural uses of the organophosphate pesticides (OPs) diazinon and chlorpyrifos have been scaled back by EPA to the extent that further research on mitigating their use is a mute point. Although this statement is consistent with urban uses of these pesticides, it is completely inaccurate with regard to the agricultural uses that continue to account for the majority of use and which represent the primary loading factor following winter rainfall. These pesticides continue to be very effective and affordable for pest control, and therefore remain in use by California growers. There is no scheduled termination of the agricultural uses of these products. Additionally, the Delta Regional review failed to recognize that our proposal also proposes considerable new work that will evaluate the aquatic toxicity of pyrethroid pesticides that are beginning to be used in place of the OPs for both urban and ag uses. The need for continuing research on the organophosphate pesticides as well as the need for new research on the pyrethroid pesticides was correctly emphasized in the ERP PSP, and our proposed research addresses precisely those needs.

Glaringly false statements were made about our proposal in the Sacramento Regional review. That review stated that "The proponent has received a 1999 and 2000 grant totaling \$2 million for similar work" and therefore this proposal "may be duplicative". The review went on to state a strong concern among the panel members that "this may be duplicative work of projects already funded by Prop 13 and CALFED Watershed funding". First of all, no additional

research funds have ever been received by our group other than the initial \$957,000 granted by CALFED ERP four years ago and a one year, \$150,000 augmentation to the project last year. Furthermore, the Prop 13 and CALFED Watershed projects referred to are managed by other, non-university interests as grower demonstration projects. They are not research projects, and our group has not received funding for our research from these grants. In the spirit of improving watershed management practices and welcoming stakeholder involvement in our research, our group has been working cooperatively with the non-university interests who manage these grants by providing those projects with technical support including water quality monitoring that helps satisfy their contracted tasks.

Of the four External Scientific reviews, two ranked our proposal as "Excellent", one as "Good" and one "Poor". The two lower ratings expressed concern about the reliability of our analytical chemistry methodology. We acknowledge that a typo on page 6 of our proposal indicated that our detection limits for diazinon and the pyrethroid esfenvalerate were 0.5 and 0.2 mg/L respectively. This would mean that we could only detect these pesticides at the parts per million level when, in fact, our detection limits are at the parts per billion level ($\mu\text{g/L}$). Had it not been for the errant symbol, we are convinced that all of the scientific reviews would have likely ranked the proposal appreciably higher. Of equal importance should be recognition of the fact that our proposed methods include bioassay studies in addition to analytical chemistry detection of the pesticides of concern. Bioassays, of course, can be expected to be more sensitive than analytical chemistry for the purpose of detecting toxicity. Much still needs to be learned about the toxicity of these heavily used dormant season pesticides, particularly the pyrethroids, and our proposal clearly addresses the toxicity data gaps. Moreover, it is proactive in that it addresses potential mitigation measures as well. To our knowledge, our proposal was unique among submissions in this regard.

Only two proposals that were funded through the CALFED ERP RFP relate at all to pesticides and water quality, a stated area of emphasis. Of those proposals, our proposal has a very different yet complementary emphasis. Proposal #213 focuses upon 2 management practices and their potential effect on a number of runoff constituents including unspecified pesticides from row crop agricultural systems. These systems do not apply OPs or pyrethroids during the winter rainy season as do orchards systems which are the focus of our proposal. Proposal #242 focuses first on developing more sensitive analytical methods for pyrethroids and then on measuring their concentrations once they enter surface water systems. Both of these are important areas for research. Our proposal differs from #242 as it examines movement of both pyrethroids and OPs (using current analytical methods and bioassay techniques) from the source (the application itself) as influenced by a number of possible mitigating practices (e.g. application timing, application formulations, application technology, cover crops and groundcover vegetation, soil types, etc.). Our proactive approach is highly complementary of #242, and it would have been exciting to explore the obvious collaborative potential of these two proposals should those investigators succeed in developing more sensitive analytical methods.

Our team has four years of proven expertise and productivity in studying this key segment of agricultural pesticide use. Beyond research, however, our group has an outstanding record of sharing knowledge relative to pesticide mitigation and water quality concerns with watershed groups, state agencies, agricultural commodity boards, and other demonstration and research

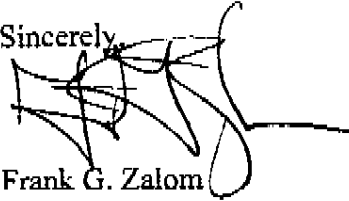
Zalom - Pproposal #212 Comments

3

projects funded by CALFED and other sources. We have well-refined methods for collecting the appropriate kinds of winter runoff samples and data, and we have built both momentum and a collaborative team effort that is poised to expand the knowledge base necessary for solving the problems at hand as well as possibly avoiding another generation of problems.

In light of damaging and false statements having been made about our proposal (#212), and the obvious error in the case of the units specified for detection limits, we ask that it be reevaluated and given further consideration for funding. Consistent with the CALFED ERP PSP and mission, we feel it is most appropriate to support the unique work embodied in our proposal and to maintain the momentum created by our team.

Sincerely,

A handwritten signature in black ink, appearing to read 'Frank G. Zalom', with a long horizontal line extending to the right.

Frank G. Zalom

Cc: K. Giles
M. Oliver
H. Scher
W. Wallender
I. Werner
B. Wilson